Customer Care Solutions
Technical Documentation

SERVICE MANUAL

[Issue 2: NMP Part No. 0275599]
[Issue 2, Amendment 1: NMP Part No. 0275849]

NHL-2NA Imaging Phone
Nokia 7650

NHL-2NA Issue 2, Amendment 1: 08/2003

NOKIA

Issue 2, Amendment 1 08/2003
Copyright© 2003 Nokia. All Rights Reserved

Customer Care Solutions
Technical Documentation

Amendment Record Sheet

Amendment No	Date	Inserted By	Comments
	07/2002	OJ, JoM, ViK, MBe	Original Issue 1
	11/2002	ViK	Issue 2
ISSUE 2, Amendment 1	08/2003	MPH	Foreword: Part no. and ARS infiormation updated
ISSUE 2, Amendment 1	08/2003	MPH	Parts List: p. 6-3, TOC updated
			P. 6-17, Parts List update, version lg4_08_05 added.
ISSUE 2, Amendment 1	08/2003	MPH	Schematics: p. 14-A-13 “Audio, version lg4_08_05” added.
			P. 14-A-17 “Parts Placement Diagram, version lg4_08_05” added.
			P. 14-A-20 “I1, version lg4_08_05” added.
			P. 14-A-25 “Values Top I, version lg4_08_05” added.

Copyright© 2003 Nokia. All Rights Reserved

Customer Care Solutions
Technical Documentation

NHL-2NA Overall Manual Contents

Contents:

Section 1: Foreword

Section 2: General Information

Section 3: System Module LG4 & Grip Module LS4

Section 4: User Interface

Section 5: Camera Module

Section 6: Parts List

Section 7: Product Variants

Section 8: Service Software Instructions & Service Concepts

Section 9: Service Tools

Section 10: Assembly & Disassembly Instructions

Section 11: Troubleshooting Instructions

Section 12: Accessories

Section 13: Quick Guide

Section 14: Schematic Diagrams

Issue 2, Amendment 1 08/2003

Copyright© 2003 Nokia. All Rights Reserved

Customer Care Solutions
Technical Documentation

IMPORTANT

This document is intended for use by qualified service personnel only.

Company Policy

Our policy is of continuous development; details of all technical modifications will be included with service bulletins.

While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If any errors are found by the reader, NOKIA CORPORATION. should be notified in writing.

Please state:

Title of the Document + Issue Number/Date of publication

Latest Amendment Number (if applicable)

Page(s) and/or Figure(s) in error

Please send to: Nokia Corporation / Nokia Mobile Phones
CCS Technical Documentation
PO Box 86
FIN-24101 SALO
Finland

Issue 2, Amendment 1 08/2003
Copyright© 2003 Nokia. All Rights Reserved

Customer Care Solutions
Technical Documentation

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information.

Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.

Issue 2, Amendment 1 08/2003
Copyright© 2003 Nokia. All Rights Reserved

ESD Protection

Nokia requires that phone repair places have sufficient ESD protection (against static electricity) when servicing cellular phones.

A cellular phone, which is ready for use, can be handled normally without ESD protection. The SIM card and battery can be replaced in normal conditions of use.

To replace the color cover ESD protection must be applied, except for the phone covers which can be replaced by the customer.

All electronic parts of the phone, including the display, are susceptible to ESD. Resistors, too, can be damaged by static electricity discharge.

All ESD sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).

Every repair action involving opening the phone or handling the phone components must be done under ESD protection.

ESD protected spare part packages MUST NOT be opened/closed out of an EPA.

For more detailed information about ESD protection and EPA, contact your local Nokia After Market Services representative.

Copyright© 2003 Nokia. All Rights Reserved